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Macrofungal diversity of Adıyaman Province (Turkey)

Abdullah Kaya

akaya@adiyaman.edu.tr
Adıyaman University, Education Faculty
TR 02030, Turkey

Abstract —This study was carried out on macrofungal specimens collected from Adıyaman province of Turkey during 2001–2009; a total of 189 taxa were identified. Including 33 taxa previously reported, a list of 222 taxa belonging to 98 genera of 42 families has been compiled. Three taxa, *Conocybe pilosella*, *Coprinopsis gonophylla,* and *Stropharia melanosperma* are new records for the macromycota of Turkey. The complete list is available on: http://www.mycotaxon.com/resources/weblists.html.

Key words — biodiversity, mushrooms

Introduction

According to available records, studies on the macromycota of Turkey started in the first quarter of 20th century and there has been an increase in the number of such studies, especially in the last three decades. By the end of 2008, about 1814 macromycete taxa reported from Turkey in 416 published studies by foreign and Turkish researchers have been compiled in checklists (Solak et al. 2007, Sesli & Denchev 2008). Solak et al. (2009) and Kaya (2009a) also added to the list. Considering the macrofungal diversity estimates of Mueller et al. (2007) regarding the plant/macrofungus ratios of temperate regions, there is still much to be done to obtain the overall macrofungal data of Turkey. To date, Kaya et al. (2004) and Kaya (2005, 2009b,c) have published studies with data on collections from Besni, Gölbaşı, Tut districts, and Nemrut Mount National Park within Adıyaman. The current study was based on macrofungi collected from the rest of Adıyaman province and aims to determine the fungal diversity of the region and contribute to the knowledge of the macromycota of Turkey.

Adıyaman is a Southeastern Anatolian vilayet of Turkey with a surface area of 7614 km^2 situated in C7 square according to Davis' grid square system (Davis 1965). The central district is located on the foothills of the Southeastern Taurus Mountains. The province generally has a very rough terrain and the land, which generally descends from north to south, is broken up by many deep gorges.

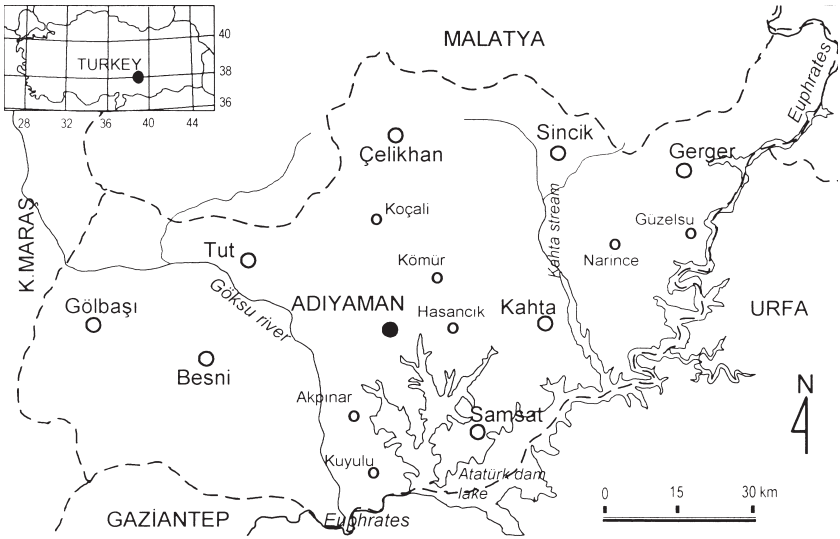

Figure 1. Macrofungi collecting area

The province is bordered by the Taurus Mountains to the north and the river Euphrates to the south. Adıyaman has a Mediterranean climate (Emberger's formula; Akman 1999) characterized by cold rainy winters and dry summers, with an annual average temperature of 17.2ºC and annual rainfall of ~685 mm. The river Euphrates, Atatürk Dam Lake, and many streams that flow into the lake from the southern foothills of Taurus Mountains are among the important hydrologic factors affecting the climate for macrofungal growth. The plant cover in Adıyaman is a mixture of Mediterranean, Southeastern, and Eastern vegetation. Forest areas are characterised mainly by *Quercus* and planted *Pinus brutia* populations. Members of the genera *Pistacia*, *Rhus*, *Paliurus*, *Prunus*, *Morus*, *Crataegus, Acacia*, *Cedrus*, *Amygdalus*, *Nerium,* and *Rosa* are other representative tree populations in the region. Various species of *Salix*, *Populus*, *Platanus,* and *Tamarix* are dominant along the river and stream banks.

Materials and methods

Periodic fungal inventories were conducted between October 2001 and May 2009; macrofungal samples were collected from 110 localities in Adıyaman Province, Turkey. The majority of collection sites were in naturally growing oak forests, planted pine forests, meadows, pastures, and streamsides. During field studies, color photographs of the specimens were taken for macroscopic descriptions and placed in specially prepared paper boxes together with

the recorded field data. Macroscopic and microscopic investigations were carried out later in the herbarium. Measurements of basidiospores and other microscopic structures were made from slide preparations mounted in 3% KOH. Specimens were identified according to Phillips (1981), Moser (1983), Miller & Miller (1988), Breitenbach & Kränzlin (1984–2005), Candusso & Lanzoni (1990), Buczacki (1992), Jordan (1995), Bessette et al. (1997), and Antonín & Noordeloos (1997) or comparisons with our previously identified samples and VANF herbarium collections. Fruit bodies were preserved by drying on a specially designed low heat electric dryer and deposited in the fungarium of Adıyaman University Education Faculty, Adıyaman, Turkey.

Results

Determined 189 taxa are listed alphabetically with habitat, locality, collection date, and accession numbers (K: Kaya). Author citations are abbreviated according to http://www.indexfungorum.org/AuthorsOfFungalNames.htm and the systematics of the taxa are in accordance with Cannon & Kirk (2007), Kirk et al. (2008), and Index Fungorum (www.speciesfungorum.org; accessed 29 May 2009). The 33 taxa previously found and reported in the province (Kaya et al. 2004, Kaya 2005, 2009b,c), were added to the list together with their references. The checklist currently contains 222 taxa representing 98 genera and 42 families. Taxa include 22 *Ascomycota* (7 *Morchellaceae,* 6 *Helvellaceae,* 4 *Pezizaceae,* 4 *Pyronemataceae*, 1 *Caloscyphaceae*) and 200 *Basidiomycota* (27 *Psathyrellaceae,* 24 *Strophariaceae,* 20 *Bolbitiaceae,* 20 *Agaricaceae,* 18 *Tricholomataceae,* 12 *Inocybaceae,* 9 *Pluteaceae,* 9 *Polyporaceae,* 9 *Marasmiaceae,* 7 *Mycenaceae,* 5 *Entolomataceae,* 3 *Geastraceae,* 3 *Hymenochaetaceae,* 3 *Pleurotaceae,* 3 *Russulaceae,* 2 *Boletaceae,* 2 *Ganodermataceae,* 2 *Gomphidiaceae,* 2 *Hygrophoraceae,* 2 *Physalacriaceae,* 2 *Suillaceae,* 1 *Amanitaceae,* 1 *Auriscalpiaceae,* 1 *Clavulinaceae,* 1 *Cortinariaceae,* 1 *Cyphellaceae,* 1 *Diplocystidiaceae,* 1 *Hydnangiaceae,* 1 *Hygrophoropsidaceae,* 1 *Lyophyllaceae,* 1 *Meruliaceae,* 1 *Paxillaceae,* 1 *Rhizopogonaceae,* 1 *Sclerodermataceae,* 1 *Stereaceae,* 1 *Tapinellaceae*, 1 *Thelephoraceae*).

Conocybe pilosella (Pers.) Kühner 1935, *Coprinopsis gonophylla* (Quél.) Redhead et al. 2001, and *Stropharia melanosperma* (Bull. ex Pers.) Gillet 1878 are new records for the macromycota of Turkey.

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